



**Department of  
Environmental Protection  
Bureau of Land & Water Quality Jan. 2002**

**O&M Newsletter**

**A monthly newsletter for wastewater discharge licensees, treatment facility operators and associated persons**

**Electronic Copies of the O&M news**

We have about 50 operators or others who have signed up to get the O&M News via e-mail. We'll still continue to post every issue of the O&M news on the DEP Web site at <http://www.state.me.us/dep/blwq/newslet/omnews.pdf>, but e-mail is a quicker way to get the news in your hands.

If you have e-mail and would like to receive the O&M News electronically instead of in the mail, please send an e-mail to:

[dick.darling@state.me.us](mailto:dick.darling@state.me.us)

We will add your e-mail address to our e-mail group and start sending your O&M News electronically.

**Spring 2002 Exam**

The Spring 2002 Wastewater Operator Certification Exam will be given Wednesday, May 15, 2002 in the usual locations, South Portland, Bangor and Presque Isle. Applications must be postmarked on or before Saturday, March 30, 2002 or delivered to our offices by Monday, April 1, 2002. Applications can be obtained by contacting Leslie Rucker at 287-9031 or by writing to Wastewater Operator Certification Program, Maine Department of Environmental Protection, 17 State House Station, Augusta, ME 04333-0017.

***For Practice***

1. A new industry is planning to locate in your town. They will be discharging process water to your treatment facility. You have received a sample of process water from another factory owned by the same company, which has the same pollutants in the same quantities as the water you will be receiving at your facility. You mix some of the sample with some of your present influent in a ratio comparable to what you expect to receive when the new factory comes on line. When you run an OUR test on this mixture, you note that the respiration rate decreases. This indicates:
  - a. The mixture is toxic to the mixed liquor.
  - b. The sample is over aerated.
  - c. The MLSS must be decreased to accept this waste.
  - d. The new waste may require additional aeration to stabilize.

2. Your discharge license requires you to store wastewater in your lagoon for 120 days in the winter. If you have an average influent flow of 183,500 gallons/day and a total pond area of 18 acres (784,000 sq.ft.), how much freeboard do you need in your 5-foot deep lagoon?
  - a. 1.68 ft.
  - b. 2.16 ft.
  - c. 3.38ft.
  - d. 3.75 ft.
3. The term “return sludge” usually refers to sludge from:
  - a. Primary Clarifiers
  - b. Secondary Clarifiers
  - c. Aerobic Digesters
  - d. Anaerobic Digesters
4. Which waterborne disease is caused by a virus?
  - a. Polio
  - b. Cholera
  - c. Typhoid Fever
  - d. Diphtheria

## UPCOMING TRAINING COURSES

January 10,17,24,31 & February 7, 14, 2002 in Scarborough, ME - Stormwater Instructional Module (6 week course) - sponsored by JETCC (207) 767-2649 - Approved for 24 hours.

January 24, 2002 in York, ME – Confined Space Entry - sponsored by MRWA, (207) 729-6569 - Approved for 4 hours.

January 31, 2002 in Lewiston, ME - Basic On Site Septic System Installation - sponsored by JETCC (207) 767-2649 6569 - Approved for 6 hours.

February 5, 12, 26 & March 5, 2002 in Norway, ME – NPDES Laboratory Class - Control - sponsored by MRWA, (207) 729-6569 - Approved for 16 hours.

February 6, 2002 in Augusta, ME - Proprietary On-Site Wastewater Disposal Systems Program - sponsored by JETCC (207) 767-2649 - Approved for 6 hours.  
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February 7, 2002 in Augusta, ME – Confined Space Entry - sponsored by MRWA, (207) 729-6569 - Approved for 4 hours.  
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February 12, 2002 in Augusta, ME - Water Bureau Issues Briefing - sponsored by JETCC (207) 767-2649 - Approved for 6 hours.

February 19, 2002 in Portland, ME - Safety Awareness Program - sponsored by JETCC (207) 767-2649 - Approved for 6 hours.

February 21, 2002 in Portland, ME - Advanced On-Site Septic System Installation - sponsored by JETCC (207) 767-2649 - Approved for 6 hours.

March 5, 2002 in Bangor, ME - Hands-On Review of BOD, TSS & Seeded BOD - sponsored by JETCC (207) 767-2649 - Approved for 6 hours.

March 12, 2002 in Portland, ME - Hands-On Review of Pump Basics - sponsored by JETCC (207) 767-2649

March 14,21,28 & April 4, 2002 in Scarborough, ME - Advanced Hydrology & Special Topics(4-week course) - sponsored by JETCC (207) 767-2649 - Approved for 16 hours.

March 19, 2002 in Waterville, ME - Use of Polymers in the WWTP - sponsored by JETCC (207) 767-2649

March 19, 2002 in Vassalboro, ME - Use of Coagulants & Flocculants in Water Applications - sponsored by JETCC (207) 767-2649 - Approved for 6 hours.

March 21, 2002 in Rockland, ME - Pretreatment Septic System Installation - sponsored by JETCC (207) 767-2649 - Approved for 6 hours.

March 26, 2002 in Brewer, ME - Basic On Site Septic System Installation - sponsored by JETCC (207) 767-2649 6569 - Approved for 6 hours.

March 27, 2002 in Presque Isle, ME - Advanced On-Site Septic System Installation - sponsored by JETCC (207) 767-2649 - Approved for 6 hours.

March 28, 2002 in Augusta, ME - Applying Process Control Tests to WWTP - sponsored by JETCC (207) 767-2649 - Approved for 6 hours.

April 9, 2002 in Kennebunkport, ME - By-Pass Pumping WWTP - sponsored by JETCC (207) 767-2649 - Approved for 6 hours.

April 10, 2002 in Scarborough, ME - HydroCad - sponsored by JETCC (207) 767-2649 - Approved for 6 hours.

April 16, 2002 in Presque Isle, ME - Basic Microscopy for Wastewater Operators & Using ORP for Process Monitoring WWTP - sponsored by JETCC (207) 767-2649 - Approved for 6 hours.

April 17, 2002 in Brewer, ME - Basic Microscopy for Wastewater Operators & Using ORP for Process Monitoring WWTP - sponsored by JETCC (207) 767-2649 - Approved for 6 hours.

April 18, 2002 in Brunswick, ME - Basic Microscopy for Wastewater Operators & Using ORP for Process Monitoring WWTP - sponsored by JETCC (207) 767-2649 - Approved for 6 hours.

May 1, 2002 in Livermore Falls, ME - Advanced Computer Spreadsheets for Wastewater Operators - sponsored by JETCC (207) 767-2649 - Approved for 6 hours.

May 7, 2002 in Thomaston, ME - Mechanical Packing & Mechanical Seals - sponsored by JETCC (207) 767-2649 - Approved for 6 hours.

### **Answers to *For Practice*:**

1. a. A decrease in the respiration rate indicates that the mixed liquor is using less oxygen. The most common reason for this is that there is something that is toxic to the bugs. It may be that the bugs will adapt to the new waste over time but the new waste may also inhibit the proper operation of the treatment plant. You should check with the industry to find out what the toxic material(s) may be and have them install a pre-treatment process to reduce or remove the toxic material(s)

2. d.  $183,500 \text{ gal/day} \times 120 \text{ days} =$   
 $22,020,000 \text{ gals}$   
 $22,020,000 \text{ gals} / 7.5 \text{ cu. ft./gal} =$   
 $2,936,000 \text{ cu. ft.}$   
 $2,936,000 \text{ cu. ft.} / 784,000 \text{ sq. ft.} =$   
 $3.75 \text{ ft of freeboard}$   
You would need to draw down your lagoon so that less than 1.25 feet of water remained in the lagoon at the beginning of the storage season.
3. b. Return sludge is the settled mixed liquor containing active microorganisms which is returned to the aeration basin from the secondary clarifiers.
4. a. The only disease listed which is caused by a virus is Polio.